MULTIFUNCTIONAL RECEPTACLE WITH LOAD-LEVELING CAPABILITIES

This application is continuing from provisional application filed 11/12/2002 having serial number 60/425,487 and claims the benefits thereof.

BACKGROUND OF THE INVENTION

The present invention relates generally to an apparatus for use in home improvement projects and, more particularly, to a multifunctional receptacle with load-leveling capabilities.

SUMMARY OF THE INVENTION

It is an object to aid in carrying apparatus relating to home improvement.

Accordingly, the invention relates to a multifunctional receptacle with load-leveling capabilities which includes a base member having a bottom side and side member, which can preferably be opposing side members, extending upward from the bottom side, a storage member pivotally connected to the side member to enable the storage member to have at least a limited range of movement with respect to the base member and to permit a range of inclined positions between the base member and the storage member, and an adjustable retainer interconnecting the base member and the storage member for maintaining the storage member in a predetermined fixed incline position with respect to the base. The storage member can include a substantially rectangular storage compartment, a first substantially circular storage compartment, a second substantially circular storage compartment and an open utility surface. The storage member can also include a hook for retaining a conventional roller paint tray.

The adjustable retainer can includes a flange and slotted surface operably

interconnecting the storage member and the base member such that the flange seats in a slot of the slotted surfaces to maintain a predetermined incline between the base member and the storage member.

The multifunctional receptacle can include a handle connected to the side member, which can be generally a U-shaped handle having a transverse member and two opposing parallel side arms extending therefrom in a first direction, wherein each side arm is pivotally connected to one side member. The transverse member includes a hooked arm extending therefrom in another direction from the first direction to enable the receptacle to hang from a rung of a ladder. A second generally U-shaped handle having a transverse member and two opposing parallel side arms extending therefrom in a common first direction can be provided, wherein each side arm is pivotally connected to one side member. The transverse member of the first U-shaped handle includes a retaining hook extending therefrom which is configured to removably retain the transverse member of the second U-shaped handle.

Other objects and advantages will be readily apparent to those skilled in the art upon viewing the drawings and reading the detailed description hereafter.

BRIEF DESCRIPTION OF THE DRAWINGS

The following detailed description of the embodiments of the present invention can be best understood when read in conjunction with the following drawings, where like structure is indicated with like reference numerals and in which:

Fig. 1 is a top view of a base member and an adjustable storage member in accordance with the multifunctional receptacle of the present invention;

Fig. 2 is a side view of a base member and an adjustable storage member, which is shown in a lowered position, In accordance with the multifunctional receptacle of the present invention;

Fig. 3 is a side view of a base member and an adjustable storage member, which is shown in a raised position, In accordance with the multifunctional receptacle of the present invention;

Figs. 4A and 4B are perspective views of a base member and an adjustable storage member, which are shown in a lowered and a raised position, respectively, in accordance with the multifunctional receptacle of the present invention;

Fig. 5 is a top view of a base member in accordance with the multifunctional receptacle of the present invention;

Fig. 6 is a side view of a base member in accordance with the multifunctional receptacle of the present invention;

Fig. 7 is a perspective view of a base member in accordance with the multifunctional receptacle of the present invention;

Fig. 8 is another perspective view of a base member in accordance with the multifunctional receptacle of the present invention;

Fig. 9 is a top view of an adjustable storage member in accordance with the multifunctional receptacle of the present invention;

Fig. 10 is a cross-sectional view of an adjustable storage member in accordance with the multifunctional receptacle of the present invention;

Fig. 11 is another cross-sectional view of an adjustable storage member in accordance with the multifunctional receptacle of the present invention;

Fig. 12 is a frontal view of an adjustable storage member in accordance with the multifunctional receptacle of the present invention;

Fig. 13 is a perspective view of an adjustable storage member in accordance with the multifunctional receptacle of the present invention;

Fig. 14 is a perspective view of the underside of an adjustable storage member in accordance with the multifunctional receptacle of the present invention; and

Fig. 15 is a front perspective view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle of the present invention.

Fig. 16 is another front perspective view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle of the present invention.

Fig. 17 is a side view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle of the present invention.

Fig. 18 is a front view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle of the present invention.

Fig. 19 is a back view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle of the present invention.

Fig. 20 is a back perspective view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle

of the present invention.

Fig. 21 is a back perspective view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle of the present invention shown in use on a ladder.

Fig. 22 is a side view of a base member, an adjustable storage member, and a pair of movable handles in accordance with the multifunctional receptacle of the present invention shown in use on a ladder.

Specific structure is identified in Figs. 1-22 with reference to the following reference numerals:

1 -multifunctional receptacle

2 -engagement pin

2a -retaining member

3 -base member

4 -snap fit engagement member

5- adjustable storage member

6 -cutout section

7 -adjusting flange

8 -slots

12a -substantially rectangular storage compartment

12b - first substantially circular storage compartment

12c -second substantially circular storage compartment

14- void, open utility surface

16- hook

18 -handle

30- U-shaped handle

32- retaining hook

34- hooked arm

36- tab

Skilled artisans appreciate that elements in the figures are illustrated for simplicity and clarity and have not necessarily been drawn to scale. For example, the dimensions of some of the elements in the figures may be exaggerated relative to other elements to help to improve understanding of the embodiments of the present invention.

DETAILED DESCRIPTION OF SOME EMBODIMENTS OF THE INVENTION

Home improvement projects both within and outside of the home necessitate the use of a variety of tools and materials. To ensure that projects proceed to completion in a safe and efficient manner, it is necessary that the materials (i.e., tools, paint. stain, adhesives. calk, tape, etc.) are stored in close proximity to the user. Because worksites can be on inclined and/or elevated locations, such as on a pitched roof or atop an inclined ladder for storage of paint and other materials for immediate and repeated use is difficult given the incline upon which these materials must rest, if one were to place a paint can on a steep roof or atop an inclined ladder, it would likely spill or fall. Moreover, placing tools and materials on the ground and requiring one to climb off of the roof or ladder every time they are in need of more paint or any other object or material is time consuming, inefficient, and creates certain issues of safety. Accordingly, the inventor has recognized a need for improvements in the design of receptacles for home improvement

materials.

The present invention meets the above-mentioned need by providing a multifunctional receptacle with load-leveling capabilities. Although the present invention is not limited to specific advantages or functionality, it is noted that the receptacle can be placed on a pitched surface, such as a roof or inclined ladder without risk of spilling its contents. The receptacle of the present invention has load-leveling capabilities, such that it can be adjusted so that its contents remain on a level plane when placed on an inclined surface. Accordingly, the receptacle enables a user to remain on a pitched roof or atop a ladder and repeatedly access a supply of paint, tools, or any other conceivable material.

Referring initially to Figs. 1, 2, 3, 4A and 4B, a multifunctional receptacle 1 is provided comprising a base member 3 and an adjustable storage member 5. The base member 3 and storage member 5 can be manufactured by injection mold techniques, which are well known by those skilled in the art, and can comprise a polymeric material such as ABS or polypropylene plastic.

As illustrated in Figs. 5-8, the base member 3 has a bottom and sidewalls extending upward from its bottom side and includes a pair of engagement pins 2, which are positioned on opposite sidewalls of the base member 3 and can include a retaining member 2a. In addition, a cutout section 6 is shown in Figs. 5 and 8. A series of slots 8 are fashioned on one side of the cutout section 6. Although the figures show the slots 8 positioned on one particular side of the cutout section 6, it is contemplated that the slots 8 could be positioned on either or both sides of the cutout section 6. Moreover, the slots 8 of the present invention are not limited to any particular number or size and are dimensioned so as to accommodate an adjusting flange 7, which is attached to the

adjustable storage member 5 and is described in more detail below.

As illustrated in Figs. 9-14, the adjustable storage member 5 includes a plurality of storage compartments. More particularly, the storage member 5 can include a substantially rectangular storage compartment 12a that can be employed in holding tools and home improvement materials (i.e., calk gun; scraper, screw driver, paint can opener, rags. and tape), a first substantially circular storage compartment 12b that can be dimensioned for holding a gallon size can of paint, stain or any other material, and a second substantially circular storage compartment 12c that can be employed for holding a quart size can of paint or any other conceivable vessel or material (i.e., a beverage, paint remover, spackle, etc.). However, the inventor notes that the invention is not limited to any particular number, size or shape of storage compartments, which can be used to hold virtually another object or material.

The adjustable storage member 5 can further include at least one void 14 (open utility surface), which transects the storage member 5 and is typically employed for holding a paint brush handle (bristles facing upwards). In the illustrated embodiment, a pair of voids 14 is provided, one void 14 positioned between the first substantially circular storage compartment 12b and the substantially rectangular storage compartment 12a, and another void 14 positioned between the second substantially circular storage compartment 12c and the substantially rectangular compartment 12a. Although the void 14 is typically employed for holding a paintbrush, it is contemplated that the void could be used for holding another object.

The adjustable storage member 5 can further include a hook 16. The hook 16 is employed for retaining a tray atop the storage member 5, which can be a paint tray such

as those well known and commonly used with roller and roller cover for painting planar surfaces.

A pair of snap fit engagement members 4 is provided, each positioned on an opposite side of the storage member 5, on its underside (see Figs. 10-14). In addition, a handle 18 is included and is positioned on the storage member 5 adjacent the adjusting flange 7. The pair of snap fit engagement members 4 are configured for engagement with the pair of engagement pins 2 of the base member 3. In accordance with the preset invention and as illustrated in Figs. 1-3 and 15-22, the storage member 5 is positioned within the base member 3. The pair of snap fit engagement members 4 rest upon the engagement pins 2, between the sidewall of the base member 3 end the retaining member 2a. Accordingly, the storage member 5 is suspended above the bottom of the base member 3, therefore allowing the storage member 5 to pivot about the base member 3 at the point where the snap fit engagement members 4 rest upon the engagement pins 2.

The storage member 5 is adjustable among a plurality of positions, which are set according to where the adjusting flange 7 rests among the series of slots 8. By squeezing the adjusting flange 7 against the handle 18 and then manipulating the handle 18 either up or down, the user can adjust the angle of the storage member 5 within the base member 3 from a level orientation at about 0° up to an inclined position of about 30°, for example, as well as a variety of incremental positions there between. This feature is illustrated in Figs. 2, 3, 4A and 4B. In Figs. 2 and 4A, the adjustable storage member 5 is set at about 0°, wherein Figs. 3 and 4B, the storage member 5 is set at an inclined position. Consequently, the multifunctional receptacle 1 of the present invention can be placed on an inclined surface such as a pitched roof and adjusted by manipulating the handle 18 and

flange 7 so that objects or materials contained within the storage compartments 12a-12c will be maintained at a level plane and will not spill or fall. The adjustable nature of the storage member 5 enables the receptacle 1 to be placed on a shingled roof or other like surface having a pitch between about 4/12 and about 6/12. Moreover, if a tray is positioned atop the storage member 5 with its sidewall secured by the hook 16, it too can be maintained at a level plane by adjusting the storage member 5 as described above, even though the base member 3 is positioned on a pitched surface. Consequently, material (i.e., paint) within the tray will remain therein.

The receptacle 1 can further include a foam rubber mat material on the underside of the base member 3, which assists in holding the base member 3 onto an inclined surface. The mat material, which can be approximately ½" thick, can be, for example, adhesively applied to the underside of the base member 3 by a pressure sensitive adhesive (PSA). The storage member 5 is formed with a tabs 36 which serve to support the member 5 on a rung of the ladder as shown in FIG. 22, for example.

In addition, as illustrated in the figures, the multifunctional receptacle 1 can include a pair of U-shaped handles 30a and 30b connected to the opposing sidewalls. Each U-shaped handle has a transverse member and two opposing parallel side arms extending therefrom in a first common direction, wherein each side arm is pivotally connected to one sidewall of the base 3. The transverse member of handle 30 includes a pair of hooked arms 34 extending therefrom in another direction, here shown generally opposite to the first direction of the side arms, to enable the receptacle to hang from a rung of a ladder. The U-shaped handle 30 can also include a pair of retaining hooks 32 extending therefrom which is configured to removably retain the transverse member of

the U-shaped handle 30b. It is contemplated that the hooked arm 34 and retaining hook 32 could be formed on either handle 30a or 30b. It is contemplated that other means for suspending the receptacle 1 from a ladder can be employed, such as a strap having a pair of hook-like retainers to secure the receptacle 1 to the top of a stepladder, which enables the user to move the ladder to a different position without having to take the receptacle 1 down. Such hook-like retainers can be employed for fastening or hanging the receptacle 1 to a rung of an extension ladder or on top of a fence, further adding to the multifunctional nature of the present invention.

While the invention has been described by reference to certain embodiments, is should be understood that numerous changes could be made within the spirit end scope of the inventive concepts described. Accordingly, it is intended that the invention not be limited to the disclosed embodiments, but that is have the full scope permitted by the language of the following claims.

What is claimed is: